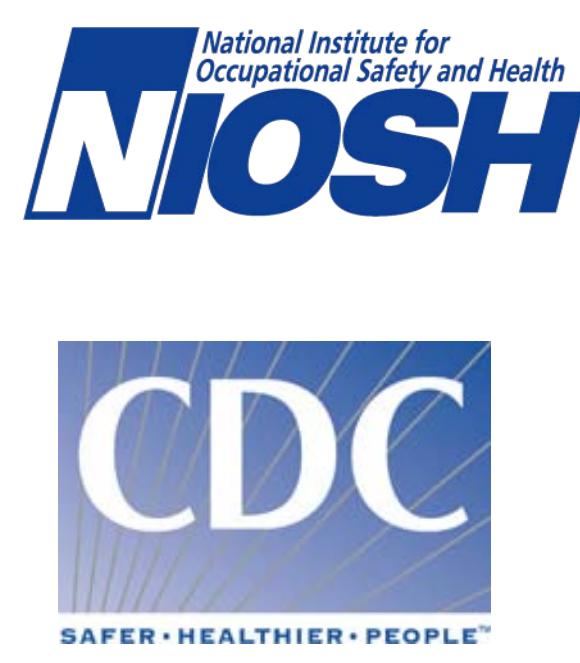




# Improving Respiratory Protection Programs in California Hospitals



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## BACKGROUND

During the 2009-2010 H1N1 influenza pandemic, the use of respiratory protection among hospital personnel increased dramatically in accordance with public health guidelines and a new California occupational standard for aerosol transmissible diseases (ATD). The National Institute for Occupational Safety and Health (NIOSH) contracted with the California Department of Public Health (CDPH) to conduct an assessment in winter 2010 of respirator use policies in 16 acute care hospitals. This project, titled Respirator Use Evaluation in Acute Care Hospitals (REACH), found that hospitals had followed both the California ATD standard and the CDC and CDPH guidelines in place at the time by developing policies for N95 filtering facepiece respirator use. However, the review of written respiratory protection programs and observation of health care workers using respirators revealed some deficiencies that suggested a need for improvement (see Figure 1). NIOSH initiated the current partnership with CDPH to develop, implement, and evaluate an intervention to improve both the written respiratory protection programs and their effective implementation in California hospitals.

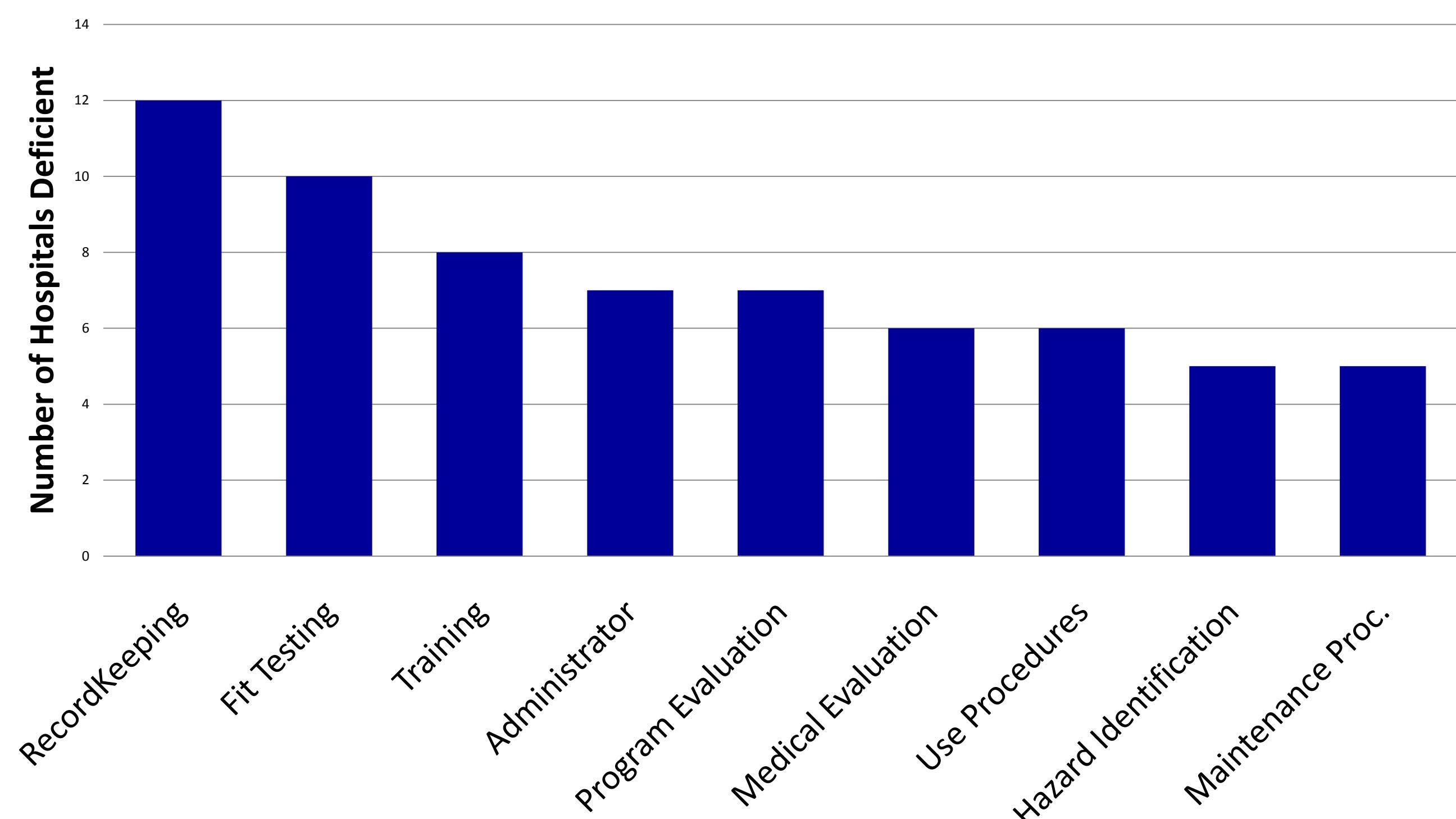
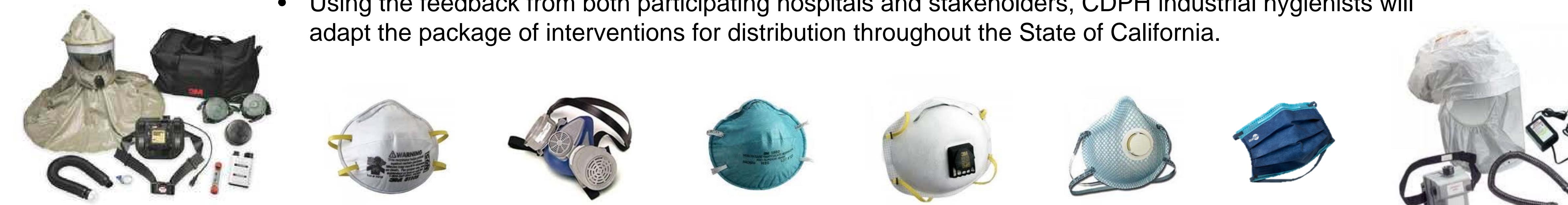


Figure 1. Deficiencies in Written Program Components Discovered in REACH

## OBJECTIVES

The primary goal of this project is to provide hospitals across the state of California with useful tools to improve their respiratory protection programs. In order to accomplish this goal, the following objectives were addressed:

- Identify the specific program components that are the weakest;
- Develop useful tools that could be implemented by hospital respiratory protection program administrators;
- Evaluate the usefulness of the tools; and
- Adapt the tools for widespread distribution.



## METHODS

### Recruitment of Hospital Participants

In the fall of 2010, CDPH staff met in person with various administrators from employee health, infection control, environmental health, and nursing departments at each of the sixteen hospitals that had participated in the REACH project.

- CDPH staff presented the results of the REACH project and invited each hospital to participate in a second project.
- Participation in the project involved pilot testing tools developed by CDPH aimed at helping to improve their respiratory protection programs.
- In return for participation, hospital respiratory protection program administrators were offered unlimited access to CDPH industrial hygienists for technical support with their programs.

### Intervention Development

- CDPH industrial hygienists assessed the needs of hospitals for various interventions based on a review of the written programs collected in the REACH project and discussions with the respiratory protection program administrators during the recruiting visit.
- A step-by-step guide to developing and implementing a respiratory protection program designed specifically for hospital respiratory protection program administrators was developed.
- Administrative tools, identifying "best practice" administrative tools and educational materials from other sources were included on a DVD with the guide and provided to the hospitals to assess as part of the pilot effort.

### Intervention Distribution and Pilot Testing

- Each participating hospital completed a pre-assessment questionnaire focused on the effectiveness of its current respiratory protection program.
- Guidebooks and DVDs were distributed to the participating hospitals in January 2011.
- Participants were invited to attend one of three scheduled webinars during the month of January to become familiar with the tools and learn how to implement them.
- Participants were instructed to implement whatever tools they thought would be useful in improving their programs and to provide feedback in a section at the back of the guide on the usefulness of the tools they chose to use.
- A CDPH industrial hygienist will visit each participating hospital in April or May 2011, during which a walkthrough of the facility and a post-assessment questionnaire identical to the pre-assessment will be completed.

### Stakeholder Evaluation of Interventions

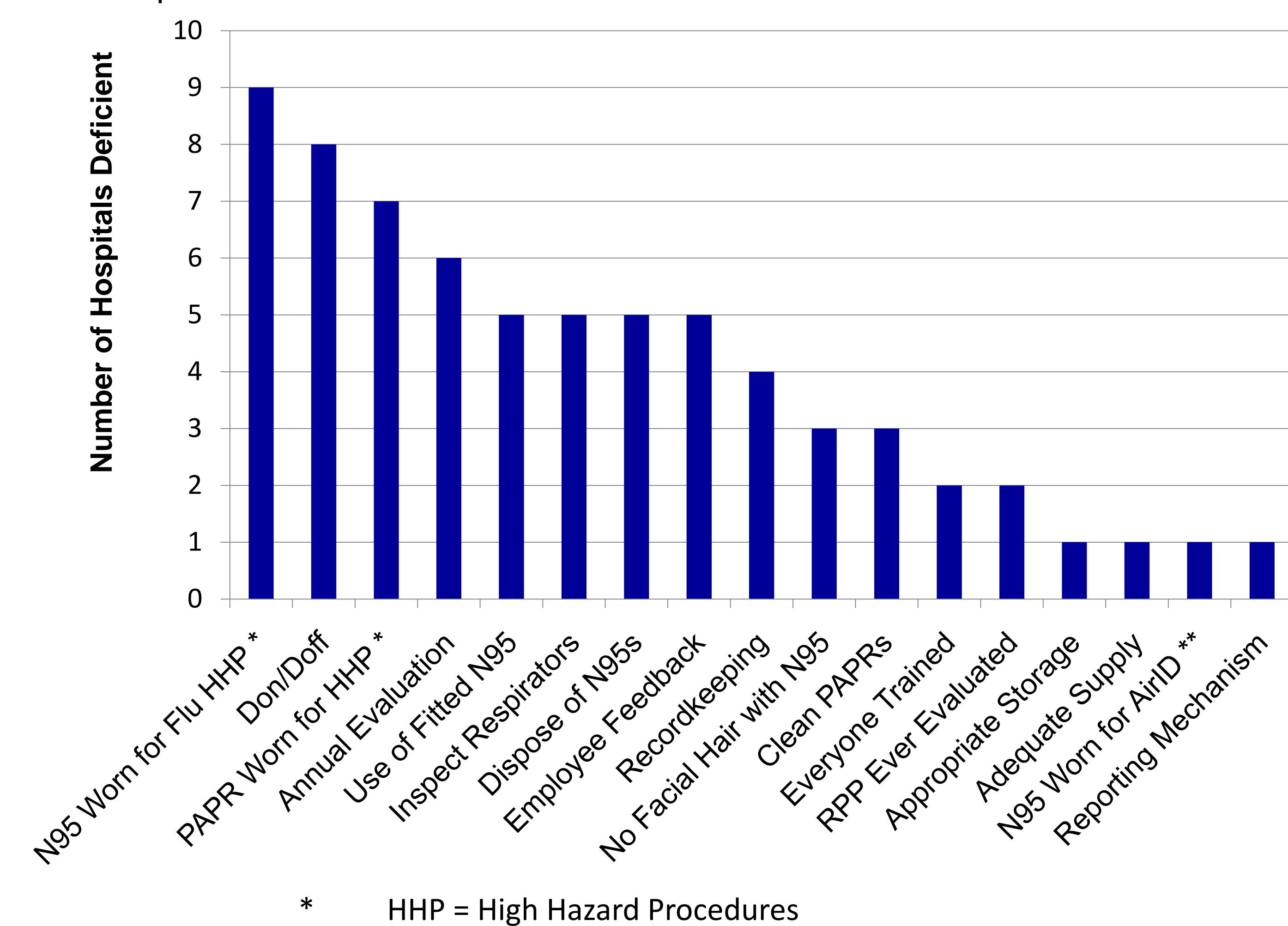
- An additional fourteen guides and DVDs were sent to various stakeholders including Cal/OSHA, hospital and infection control trade associations, and unions representing health care workers.
- Stakeholders were asked to review the materials for technical accuracy and/or the degree of usefulness for health care workers without a technical health and safety background.

### Adaptation of Interventions for Wider Distribution

- Using the feedback from both participating hospitals and stakeholders, CDPH industrial hygienists will adapt the package of interventions for distribution throughout the State of California.

## RESULTS

- All sixteen REACH hospitals and one additional hospital agreed to participate in pilot testing the interventions developed in this project.
- Pre-assessment questionnaires revealed numerous areas for improvement in implementing RPPs (see Figure 2).
- During the first two months of pilot testing, CDPH industrial hygienists have provided additional technical support to five of the participating hospitals.
- Preliminary feedback from participants and stakeholders has indicated that the guide and accompanying interventions will likely be very useful to many hospitals.



\* HHP = High Hazard Procedures

\*\* AirID = Airborne Infectious Disease (such as TB)

Figure 2. Number of Hospitals with Implementation Deficiencies on Pre-Assessment Interview

## CONCLUSIONS

- Based on progress to date, it is clear that many hospitals rely on staff with no formal training in occupational health and safety to administer their respiratory protection programs. Therefore, there is a significant need for user-friendly interventions to develop and implement respiratory protection programs in hospitals. This need will be addressed through adaptation of the best practice interventions based on the results of pilot testing and stakeholder input, followed by widespread distribution throughout California.
- These interventions will be made available for modification and implementation nationwide.

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